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May 26, 2000

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BOX PATENT APPLICATION
 Assistant Commissioner For Patents
 Washington, D.C. 20231

File No.: JANCO 3.0-001
 Title : KITCHEN APPLIANCE WITH
 VIDEO DISPLAY

Inventor(s): Robert A. Gilman, et al
 Assignee :

Dear Sir:

Enclosed herewith please find the following documents in the above-identified application for Letters Patent of the United States:

1	Pages of Abstract	Declaration One (1) return-addressed postcard
8	Pages of Specification	<u>PLEASE PROVIDE FILING DATE AND SERIAL NUMBER</u>
17	Number of Claims	
1	Sheets of Drawings <input checked="" type="checkbox"/> A4 <input type="checkbox"/> 11"	
X	Verified Statement to establish small entity status under 37 C.F.R. 1.9 and 1.27	
Assignment and Recordation Form Cover Sheet		

Please charge Deposit Account No. 12-1095 in the amount of \$345.00, calculated as follows:

Basic Fee	\$ 345.00
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Additional Fees:

Total number of claims (including multiple dependent claims): 17

Total number of claims in excess of 20: 0 x \$9

Number of independent claims: 3

Number of independent claims minus 3: 0 x \$39

Fee for multiple dependent claim(s) (\$130)

TOTAL FILING FEE	\$ 345.00
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CONVENTION DATE: for Appln. S.N. is claimed.
 Priority Document: Enclosed Will follow

In the event the actual fee is greater than the payment authorized above, the Patent Office is authorized to charge any deficiency to our Deposit Account No. 12-1095.

Respectfully submitted,

LERNER, DAVID, LITTENBERG,
 KRUMHOLZ & MENTLIK, LLP

Keith E. Gilman

Reg. No. 32,177

SB (SBEXEC) 97906

EXPRESS MAIL LABEL NUMBER:

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Applicant or Patentee: Robert A. Gilman, et al
Application or Patent No.: HEREWITH
Filed or Issued:
Title: KITCHEN APPLIANCE WITH VIDEO DISPLAY

Attorney's
Docket No.
JANCO 3.0-001

STATEMENT CLAIMING SMALL ENTITY STATUS
(37 C.F.R. §§ 1.9(f) and 1.27(b)) - INDEPENDENT INVENTOR

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 C.F.R. § 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

the specification filed herewith with title as listed above.
 the application identified above.
 the patent identified above.

I have not assigned, granted, conveyed or licensed, and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 C.F.R. § 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d) or a nonprofit organization under 37 C.F.R. § 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed, or am under an obligation under contract or law to assign, grant, convey, or license, any rights in the invention is listed below:

No such person, concern or organization exists.
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*NOTE: Separate statements are required from each named person, concern or organization having rights to the invention stating their status as small entities. (37 C.F.R. § 1.27)

FULL NAME:

ADDRESS:

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

FULL NAME:

ADDRESS:

INDIVIDUAL SMALL BUSINESS CONCERN NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. § 1.28(b))

Keith E. Gilman

NAME OF INVENTOR

Keith E. Gilman
Signature of Inventor

5/26/00

Date

NAME OF INVENTOR

Signature of Inventor

Date

NAME OF INVENTOR

Signature of Inventor

Date

Applicant or Patentee: Robert A. Gilman, et al
Application or Patent No.:
Filed or Issued: HEREWITH
Title: KITCHEN APPLIANCE WITH VIDEO DISPLAY

Attorney's
Docket No.
JANCO 3.0-001

STATEMENT CLAIMING SMALL ENTITY STATUS
(37 C.F.R. §§ 1.9(f) and 1.27(b)) - INDEPENDENT INVENTOR

As a below named inventor, I hereby state that I qualify as an independent inventor as defined in 37 C.F.R. § 1.9(c) for purposes of paying reduced fees to the Patent and Trademark Office described in:

the specification filed herewith with title as listed above.
 the application identified above.
 the patent identified above.

I have not assigned, granted, conveyed or licensed, and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who would not qualify as an independent inventor under 37 C.F.R. § 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 C.F.R. § 1.9(d) or a nonprofit organization under 37 C.F.R. § 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed, or am under an obligation under contract or law to assign, grant, convey, or license, any rights in the invention is listed below:

No such person, concern or organization exists.
 Each such person, concern or organization is listed below.

*NOTE: Separate statements are required from each named person, concern or organization having rights to the invention stating their status as small entities. (37 C.F.R. § 1.27)

FULL NAME:

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FULL NAME:

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Robert A. Gilman

NAME OF INVENTOR

Signature of Inventor

May 26, 2000

Date

NAME OF INVENTOR

Signature of Inventor

Date

NAME OF INVENTOR

Signature of Inventor

Date

KITCHEN APPLIANCE WITH VIDEO DISPLAY

The present invention relates generally to kitchen appliances such as cooking or cleaning apparatus, which incorporate a display for displaying video or other electronic images generated from video or still-frame generating apparatus.

Everybody gathers in the kitchen. Kitchens necessarily include appliances for the storage, preparation and cleanup of meals and snacks. These include conventional ovens, convection ovens, microwave ovens, rotisseries, dishwashers, wine storage units, refrigerators, refrigerator drawer units, freezers, etc. With the kitchen being the central area in many homes, other devices are often desirable in the kitchen. These include televisions, computers, security camera displays and other video display devices. These devices take additional counterspace or other space in the kitchen, whether it be on a desk in the kitchen, on the counter, mounted under the cabinets or on stand alone tables.

Existing appliances do not incorporate video display units in such a manner that effective viewing is enabled. U.S. Patent No. 5,382,939 electronically combines a microwave oven and television, whereby the 25 cooking status can be displayed on a separate television set. A display on the television, typically in a family room, indicates the status of that being cooked in the microwave oven. U.S. Patent No. 4,628,351 discloses a microwave oven having a video display in the form of a 30 Braun tube, with extensive processing stages involved. The video display in the form of a Braun tube is quite small relative to the planar real estate occupied by the microwave oven, as can be clearly seen in Figure 1. Also, the video display in the form of a Braun tube is on 35 a non-moving panel portion of the microwave oven, which is normally reserved for controls and door-opening

mechanisms. Many other appliances do not provide such non-moving panels at all, and if they do the panels are quite small so that the area of the appliance used for the storage, preparation or cleanup of meals is 5 maximized. The disclosures of these patents are incorporated herein by reference.

An appliance incorporating a video display, such as that associated with a television or computer or camera, in a manner which permits effective viewing is 10 desirable.

SUMMARY OF THE INVENTION

A kitchen appliance includes a housing having an interior, appliance controls and a door, the door 15 being movable between an open position at which the interior can be accessed and a closed position, the kitchen appliance having an apparatus in the housing for effecting the environment of the interior, as controlled by the appliance controls, and a display built within the 20 door of the appliance for displaying electronic images. The kitchen appliance apparatus for effecting the environment of the interior need not be within the housing, but may be separate therefrom. The appliance may also include a television tuner or a microprocessor, 25 a keyboard or other controls for controlling the microprocessor may be provided as well. Video generating apparatus of any type may be included, such including a camera. It is recognized that while the appliance may include these or other various devices described herein 30 or known, now or later, to those of skill in the art, the devices need not be incorporated within the appliance itself, and could be simply part of the appliance as a system for utilizing the display on the door. In connection with another aspect of the present invention, 35 a kitchen appliance includes a housing with an interior, a planar surface, appliance controls and a door, the door

being movable being an open position at which the interior can be accessed and a closed position, the kitchen appliance including an apparatus in the housing for effecting the environment of the interior, as controlled by the appliance controls, and a display on the planar surface. In one embodiment of the invention, the display covers about at least one-quarter of the planar surface. In another embodiment of the invention, the display covers about one-third of the planar surface, and in yet another embodiment of the invention, the display covers about one-half of the planar surface. The planar surface and the door need not be on the same side of the appliance housing. In one embodiment of the present invention, the appliance is a refrigerator. In another aspect of the present invention, the planar surface is on the side of the refrigerator. The appliance may include a display cover for selective covering and uncovering of the display.

In yet another aspect of the present invention, a kitchen appliance includes a housing having an interior, a generally planar surface, appliance controls and a door, the door being movable between an open position at which the interior can be accessed and a closed position, the kitchen appliance including apparatus in the housing for effecting the environment of the interior, as controlled by the appliance controls, a display on the generally planar surface, and a display cover for selective covering and uncovering of the display.

In one aspect of the present invention, the kitchen appliance may be a microwave oven, which includes an infrared receiving port for receiving signals to operate the display and/or kitchen appliance apparatus.

In another aspect of the present invention, the kitchen appliance as described in any of the above

embodiments is associated with a separate camera for generating a video.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of a microwave oven in accordance with the present invention, including a video display on the door thereof.

Fig. 2 is a perspective view of a refrigerator in accordance with the present invention, illustrating a video display on the door of the freezer compartment, as well as a video display on the side of the refrigerator, only one of the video displays being incorporated within the refrigerator in the preferred embodiment.

DETAILED DESCRIPTION OF THE INVENTION

Referring specifically to Figure 1, there is illustrated a microwave oven generally designated as 10 in accordance with the present invention. The oven 10 includes a housing 12 which embodies a generally planar front surface. The oven 10 includes microwave-generating apparatus for the oven 10 to operate appropriately as a microwave oven. The oven 10 also includes an interior for holding food to be subject to microwave cooking. Desirably, the interior should be as large as the housing, controls and microwave-generating apparatus permit. Microwave ovens vary in size, but the cooking interior should generally be as large as possible.

Oven 10 also includes a door 14 which occupies a relatively large portion of the planar front surface of the oven 10. A door latch releasing button is provided at 14a. The door 14 provides access to the cooking interior in which food must be placed and removed following cooking. The door of a microwave oven is generally the same width and height of the cooking interior so that dishware and bowlware that fits through the doorway fits in the interior. In the preferred embodiment, the door 14 opens right to left on hinges 16. The door may, of course, open in any direction. The

hinges 16 are desirably of a structure and/or arrangement which permits the hinges 16 to fully and adequately support the door 14. As will be seen below, weight may be added to the door 14 by the additional apparatus 5 therein, thus requiring hinges or other door opening expedients that differ from those provided on known microwave ovens. It is also possible that the thickness of the door itself may have to be increased by reason of the additional apparatus therein. The above with respect 10 to the hinges and thickness of the door is also true with regard to other appliances to which the present invention applies.

14 A video display 18 is incorporated within door
15 14 such that the video display can be seen on the
microwave when the door is closed, or even when it is
open. The video display 18 may display television from a
tuner, videos from a VCR or DVD player, video from an
external camera or other source, video or text generated
20 by a microprocessor or any other computer related
processing unit, or any other video which might be
desirable for viewing in a kitchen.

It is also contemplated that still-frame photographs or images can be displayed as well on a monitor incorporated in door 14, the monitor also being designated by the reference numeral 18. Such still-frames might include processed photographs, digital photographs, text (such as messages, recipes, inspirational or prophetic slogans or phrases), artwork, etc. The still-frames can be made to change periodically or remain the same until changed.

The door 14 desirably occupies a relatively large portion of the planar front surface of the microwave oven, preferably about three-quarters or more of such planar front surface area. However, as little as 35 one-quarter or one-third of such planar surface area is

preferably occupied by the video display 18 on the door 14 of the microwave 10.

Depending upon the nature of the display 18 to be incorporated within the door 14, shielding of the 5 microwaves within the microwave oven (or whatever else might be occurring within the kitchen appliance in which the display is incorporated) may be required. Such shielding would protect the display 18 and any associated apparatus, as discussed below, from electronic or signal 10 interference, temperature or humidity variations, etc. Appropriate shielding may be selected based on the type of kitchen appliance in which the display is incorporated, and that which needs to be protected to ensure proper operation of the display and its associated 15 apparatus.

The tuner, camera, microprocessor or other video-generating or still-frame generating apparatus may be within the microwave oven 10 itself, or supplied externally via hard-wiring or via signal without wires. 20 The controls for the video display 18 may also be external or incorporated within the microwave oven 10, perhaps even within the door itself. If within the microwave oven 10, the controls may be at 20, adjacent to the controls at 22 for the microwave oven itself. An 25 infrared or other receiving expedient 24 for a remote control can also be incorporated on the front panel. The various controls may also be provided directly on the door 14 itself, or on-screen controls may be provided.

Video display 18 may be generated as television 30 or may even be an LCD or LED or other viewable format. Flat versions of these are known and have been applied to television sets and computer monitors, as well as in other devices incorporating video displays. Flat television and other flat display technology is known to 35 those of skill in the art of display technology. Flat television and other flat display technology can be

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utilized in the present invention with quite effective results as the door or other portion of an appliance can remain as thin as possible. Some adjustment of the thickness of the door or other area might be necessary, 5 but would be kept to a minimum with the flat display technology.

The above flat video technology could be incorporated within the door 14. As mentioned above, if the weight of door 14 increases such that the hinges or 10 other opening expedients used on conventional microwaves are insufficient, such expedients are desirably changed in structure and/or arrangement so that the door 14 with display are sufficiently supported.

As shown in Fig. 2, the kitchen appliance may 15 also be a refrigerator 100. While the same principles which apply above to the microwave oven 10 apply to the refrigerator 100 and other appliances, the video display 118 on the refrigerator 100 need not constitute the preferred one-quarter or one-third of the front planar 20 surface of the refrigerator 100 because of the size of the refrigerator. Instead, any suitable size may be utilized insofar as the surface area of the refrigerator 100 is quite large. The same is true of other appliances. In the embodiment shown in Fig. 2, a 25 relatively large screen is provided on the upper (often freezer) door of the refrigerator 100. The only control provided is a remote receiving expedient 124. A still-frame display may be particularly appropriate for a refrigerator, as might a message display, where the 30 message to be left might be keyed in from a keyboard so that longer, perhaps scrolling notes might be left.

While the above discusses providing a display on the door of an appliance, another aspect of the present invention concerns the provision of a display on 35 another area of an appliance. Illustrated as an alternative video location on refrigerator 100 in Fig. 2

is a display 218 on the side of the refrigerator. Depending upon how a kitchen is arranged, the side of an appliance may be a particularly useful area for a display, again either video or still-frame.

5 In accordance with another aspect of the present invention, the display may be one that is hideable by a panel, when such display is not in use. Such a panel may be a sliding panel made as part of the appliance itself, such as panel 350 shown in Fig. 2 by 10 dashed lines in a partially descended position. An entire panel may be incorporated within the housing of an appliance to be slideably moved over the display, or such a panel may be a rolled material which can be slid over the display in a manner similar to pulling a shade. The 15 covering of the display with the panel may be accomplished automatically by actuation of controls which operate the same, or it can be moved manually.

20 While the foregoing illustrates and describes preferred embodiments in connection with the present invention, there are many embodiments which can be developed and are encouraged to be developed, yet remain within the spirit and scope of the claims which follow.

WHAT IS CLAIMED IS:

1. A kitchen appliance comprising:

- a. a housing having an interior and a door, said door being movable between an open position at 5 which said interior can be accessed and a closed position;
- b. appliance controls;
- c. a kitchen appliance apparatus for effecting the environment of said interior, as controlled 10 by said appliance controls; and
- d. a display built within said door for displaying electronic images on said door.

2. The kitchen appliance in Claim 1, further including a television tuner.

15 3. The kitchen appliance in Claim 2, wherein the television tuner is within the said housing.

4. The kitchen appliance in Claim 1, further comprising a microprocessor.

5. The kitchen appliance in Claim 4, further 20 including a keyboard for controlling said microprocessor.

6. The kitchen appliance in Claim 4, wherein said microprocessor is within said housing.

7. The kitchen appliance in Claim 1, further including video generating apparatus.

25 8. The kitchen appliance in Claim 7, wherein said video generating apparatus is a camera.

9. The kitchen appliance in Claim 7, wherein said video generating apparatus is at least partially in said housing.

30 10. A kitchen appliance comprising:

- a. a housing having an interior, a generally planar surface, appliance controls and a door, said door being movable between an open position at which said interior can be accessed and a closed position;

b. a kitchen appliance apparatus in said housing for effecting the environment of said interior, as controlled by said appliance controls; and

5 c. a display on said generally planar surface, said display covering about at least one-quarter of said planar surface.

11. The kitchen appliance in Claim 10, wherein said display covers about one-third of said planar surface.

10 12. The kitchen appliance in Claim 10, wherein the display covers about one-half of said planar surface.

13. The kitchen appliance in Claim 10, wherein said door and said planar surface of said appliance housing are not on the same side of the appliance 15 housing.

14. The kitchen appliance in Claim 10, wherein said kitchen appliance is a refrigerator, and said planar surface is on the side of the refrigerator.

15. The kitchen appliance in Claim 10, further 20 including a display cover for selective covering and uncovering of said display.

16. A kitchen appliance comprising:

25 a. a housing having an interior, a planar surface, appliance controls and a door, said door being movable between an open position at which said interior can be accessed and a closed position;

b. appliance controls;

30 c. a kitchen appliance apparatus for effecting the environment of said interior, as controlled by said appliance controls;

d. a display on said generally planar surface; and

d. a display cover for selective covering and uncovering of said display.

17. The kitchen appliance in Claim 16, wherein the appliance controls are part of said housing and the appliance apparatus are in said housing.

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ABSTRACT

A kitchen appliance such as a cooking or cleaning apparatus includes video or other electronic image display built within the door of the appliance or a side or other surface of an appliance. Controls for the display and the video or still-frame generating apparatus associated therewith are either built directly within the appliance and/or are associated via remote control, including an infrared receiving port. The display could be fed from a television tuner, microprocessor or any other video or still frame generating apparatus.

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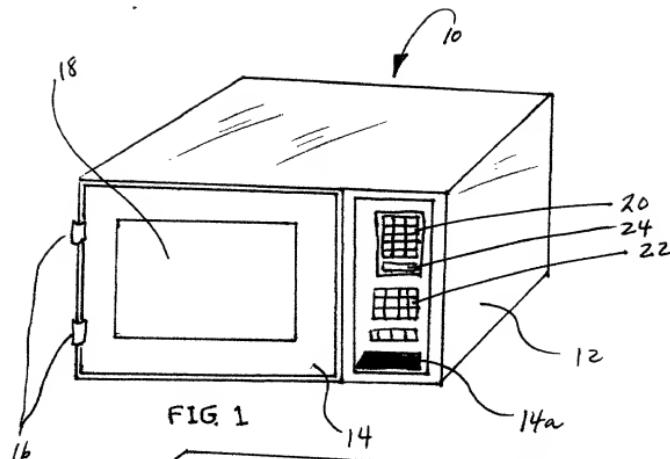


FIG. 1

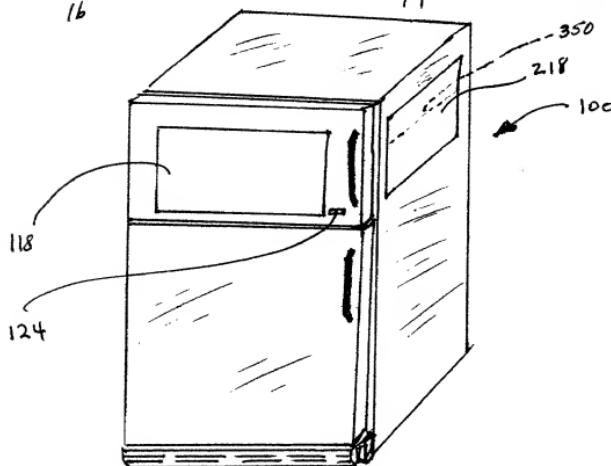


FIG. 2

DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION

ATTORNEY'S DOCKET NO.: JANCO 3.0-001

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

KITCHEN APPLIANCE WITH VIDEO DISPLAY the specification of which

is attached hereto
 was filed on _____ as United States Application Number or PCT International Application Number _____ and was amended on _____ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or § 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate, or any PCT international application having a filing date before that of the application on which priority is claimed:

PRIOR FOREIGN APPLICATION(S)			
COUNTRY	APPLICATION NUMBER	DATE OF FILING (month, day, year)	PRIORITY CLAIMED
			YES <input type="checkbox"/> NO <input type="checkbox"/>
			YES <input type="checkbox"/> NO <input type="checkbox"/>
			YES <input type="checkbox"/> NO <input type="checkbox"/>

LISTING OF FOREIGN APPLICATIONS CONTINUED ON PAGE 3 HEREOF YES NO

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

Application Number: Filing Date:

Application Number: Filing Date:

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s), or § 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

U.S. Parent Application Serial Number: Parent Filing Date: Parent Patent No.:

U.S. Parent Application Serial Number: Parent Filing Date: Parent Patent No.:

PCT Parent Number: Parent Filing Date:

LISTING OF US APPLICATIONS CONTINUED ON PAGE 3 HEREOF: YES NO

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following registered practitioner(s) to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith: Customer Number 000530

DIRECT ALL CORRESPONDENCE TO: Customer No. 000530

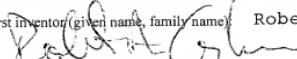
DECLARATION -- Page 2

ATTORNEY DOCKET NO. JANCO
3.0-001

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole or first inventor (given name, family name) Robert A. Gilman

Date May 26, 2000

Inventor's signature 

Wayne, NJ

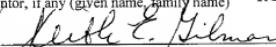
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Full name of second joint inventor, if any (given name, family name) Keith E. Gilman

Date 5/26/00

Second Inventor's signature 

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Post Office Address: One Brandywine Court, Scotch Plains, NJ 07076

Full name of third joint inventor, if any (given name, family name):

Third Inventor's signature _____ Date _____

Residence: Citizenship:

Post Office Address:

Full name of fourth joint inventor, if any (given name, family name):

Fourth Inventor's signature _____ Date _____

Residence: Citizenship:

Post Office Address:

Full name of fifth joint inventor (given name, family name):

Fifth Inventor's signature _____ Date _____

Residence: Citizenship:

Post Office Address:

Full name of sixth joint inventor, if any (given name, family name):

Sixth Inventor's signature _____ Date _____

Residence: Citizenship:

Post Office Address:

Full name of seventh joint inventor, if any (given name, family name):

Seventh Inventor's signature _____ Date _____

Residence: Citizenship:

Post Office Address:

Full name of eighth joint inventor, if any (given name, family name):

Eighth Inventor's signature _____ Date _____

Residence: Citizenship:

Post Office Address:

Additional inventors are being named on separately numbered sheets attached hereto.